

REMARKS

Claims 1-20 are pending in the present Application.

I. The drawings issues.

Figures 10A-10B have been marked "PRIOR ART" as respectfully requested by the Examiner. Replacement figure 10A and 10Bs are submitted herewith.

II. The obviousness rejection of claims 1-20 in view of the combination of Wen (US 6,164,757) in view of Ramler (US 3,984,726).

Claims 1, 9, 13, and 19 are the independent claims.

As the USPTO acknowledges, Wen discloses only one light source and fails to disclose a plurality of light sources as presently claimed.

Further, not to argue unclaimed limitations, but for the Examiner's information it is also respectfully noted herein that Wen also fails to address the structurally inherent issue of downsizing an apparatus or miniaturizing the device and improving the curing efficiency of ink in spite of downsizing as discussed in the specification of the present invention. For example, when multiple light sources are used such as in the presently claimed invention, different issues arise than if a single light source is used.

Ramler is cited by the USPTO as disclosing a plurality of UV light sources. However, nothing about an ink jet recording head or apparatus as presently claimed is described in Ramler. Although Ramler discloses ultraviolet ray sources, Ramler fails to disclose the use for an ink jet and Ramler's examples are UV ink coating compositions.

Further, the invention of Ramler is an invention where a plurality of light sources are provided, and when illuminance (intensity) of one light source reduces, the total illuminance (intensity) are adjusted so as to be constant by increasing the illuminance (intensity) of other light sources.

In contrast, as for the present invention, it is possible to efficiently irradiate and cure ink on a medium even when an irradiating unit is downsized by arranging light sources so that distances from the light sources to a recording surface are different from each other. More

particularly, the claimed structure of the invention is at least inherently directed to simultaneous pursuit of downsizing of the irradiating unit and more efficient curing of ink jetted from a nozzle onto a medium as discussed in the specification.

UV curable ink for an ink jet is cured by irradiating with ultraviolet rays after the ink is jetted onto the medium. The longer time the curing takes, the more widely the jetted ink spreads and hence the diameter of dots is enlarged. Quick curing of ink is required for keeping high definition. For the quick curing, it is conceivable to increase the amount of irradiation with respect to UV rays with which ink on a medium is irradiated. However, there is a problem of upsizing of an apparatus if the number of the light sources is increased in order to increase the amount of irradiation for the quick curing of ink.

The present application solves the two conflicting problems.

As described above, the present application solves the unique problem of an ink jet hence having a completely different object and effect from Ramler which has nothing to do with such a problem.

As described above, Wen and Rainier fail to disclose downsizing the irradiating unit of an ink jet printer and efficiently curing ink in spite of the downsizing. Further, Wen and Ramler are completely different inventions in terms of objects and effects of the inventions. Therefore, those having skill in the art could not combine the inventions in these cited references. Even if the inventions had been combined, the combination would not suggest the features of the present invention. Therefore, a *prima facie* case of obviousness had not been established as required by MPEP 706.02(j) citing 35 USC 103 at least because there is no motivation to combine these references and because all of the claimed limitations are not taught or suggested by the cited combination.


III. Conclusion.

It is believed that the foregoing amendments and remarks fully comply with the Office Action and that the claims herein should now be allowable to Applicants. Accordingly, reconsideration and allowance are requested.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130.

Respectfully submitted,

CANTOR COLBURN LLP

By 

Daniel P. Lent

Registration No. 44,867

Date: October 12, 2005
CANTOR COLBURN LLP
55 Griffin Road South
Bloomfield, CT 06002
Telephone (860) 286-2929
Facsimile (860) 286-0115
Customer No.: 23413